

CLAIMS

1. A tumbling magnet electricity generating system for supplying electricity to at least one electrical device, comprising a tumbling chamber (10), a first magnet (9) arranged within the tumbling chamber (10), a second magnet (2) arranged externally to the tumbling chamber (10), and a coil (11) looped around the tumbling chamber (10), adapted such that the tumbling chamber (10) is of sufficient dimensions to allow the first magnet (9) to freely tumble, and such that on proximal relative motion of said first and second magnets, the mutual interaction of the magnetic fields is sufficient to cause the first magnet (9) to tumble in the tumbling chamber (10), generating a varying magnetic flux through the coil (11) such that a corresponding potential difference is formed across opposite ends of the coil (11), generating electricity to run an electric appliance.
2. A tumbling magnet electricity generating system as claimed in claim 1, wherein the tumbling chamber (10) is substantially of non-magnetic material.
3. A tumbling magnet electricity generating system as claimed in claim 1 wherein the coil (11) comprises an insulated copper wire wound around the outer surface of the tumbling chamber (10), the opposite ends of the coil (11) being electrically connected to terminals of an electric appliance.
4. A tumbling magnet electricity generating system as claimed in claim 1 wherein the first magnet (9) is substantially of a known geometric shape.
5. A tumbling magnet electricity generating system as claimed in one of claims 1 and 2, wherein the tumbling chamber (10) is substantially of a known geometric shape.
6. A bicycle comprising the tumbling magnet electricity generating system of claim 1 for providing illumination.
7. A tumbling magnet electricity generating system as claimed in claim 1 or 6, wherein the second magnet (2) is fixedly attached to a wheel of a bicycle.
8. A tumbling magnet electricity generating system as claimed in claim 1 or 6 wherein the electricity generating unit containing the first magnet (9) is fixedly attached stationary relative to and non-rotate relative to a part of a bicycle frame by a supporting member.

9. A tumbling magnet electricity generating system as claimed in any one of claims 1, 6, 7 and 8, wherein on rotation of a bicycle wheel the second magnet (2) passes proximal to the first magnet (9) once during each rotation of said wheel.

10. A safety signal generator for a bicycle comprising a tumbling magnet electricity generating system of any one of claims 1, 6, 7, 8, 9 and 10, and at least one light emitting diode electrically connected to the coil (11) of the tumbling magnet electricity generating system wherein a rotation of the first magnet (9) causes a varying electric current to flow through the coil (11) and illuminate the light emitting diode.